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7,466,294 B2 10/786,813 12/16/2008 02/25/2004 5131 0553-0399

Respectfully Submitted,

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(12) United States Patent

Yamazaki et al.

(10) Patent No.: (45) Date of Patent:

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(54)	LIGHT EMITTING DEVICE AND ELECTRIC
	APPLIANCE

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(30) Foreign Application Priority Data

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(51) Int. Cl. G09G 3/32 (2006.01)

See application file for complete search history.

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(57) ABSTRACT

When materials of a cathode and an anode are transparent and a substrate with transparency is used for a substrate and a sealing substrate, luminescence from a layer including an organic compound can simultaneously perform two ways of display: luminescence passing a cathode and luminescence transmitted in an anode. However, interference effect by an optical distance difference results in difference in optical characteristics (such as a color tone) between luminescence from a top surface and luminescence from a bottom surface. According to the present invention, a light-emitting device having luminescence from a top surface and luminescence from a bottom surface provides both luminescence to a top surface and luminescence to a bottom surface with an image display having an uniform color tone and of high quality by regulating a film thickness of a transparent conductive film disposed on a cathode side and a film thickness of a cathode.

27 Claims, 7 Drawing Sheets

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314 : SECOND SUBSTRATE		Π
313 : SPACE	T	Π
312: TRANSPARENT PROTECTIVE FILM	T	Π
319 : TRANSPARENT CONDUCTIVE LAYER		Π
311: METAL THIN FILM (SECOND ELECTRODE (Ag))	
ELLECP: LI) 310: EL LAYER FM.(a-NPb) HIL(a-NPb) HIL(a-NPb)		
318 : TRANSPARENT CONDUCTIVE LAYER (FIRST ELECTRODE)		
301 : INSULATING LAYER		
300 : FIRST SUBSTRATE		
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